WHAT IS CLAIMED IS:

1. A gain equalizer for flattening a spectrum of input light in a predetermined wavelength range, comprising:

a coarse-tunable equalizing section flattening the spectrum of input light in the predetermined wavelength range; and

a fine-tunable equalizing section flattening the spectrum of input light in a wavelength range where said coarse-tunable equalizing section can not flatten at a predetermined value or less among the predetermined wavelength range,

wherein said coarse-tunable equalizing section has a loss larger than that of said fine-tunable equalizing section and a reflectance smaller than that of said fine-tunable equalizing section.

2. A gain equalizer according to claim 1, wherein a period of residual when flattened by said coarse-tunable equalizing section in the predetermined wavelength range is broader than a band width where a transmittance of said fine-tunable equalizing section becomes -0.1 dB or less.

3. A gain equalizer according to claim 1, wherein said coarse-tunable equalizing section includes one of a long-period grating, a slanted grating, a dielectric multi-layer filter and an etalon filter.

4. A gain equalizer according to claim 1, wherein said fine-tunable equalizing section includes one of a slanted

grating and a chirped grating.

5. An optical amplification apparatus for amplifying signal light in a predetermined wavelength range inputted through an input terminal and outputting the amplified signal light from an output terminal, comprising:

an optical amplifier amplifying the signal light in the predetermined wavelength range; and

a gain equalizer according to claim 1, said gain equalizer flattening a spectrum of the signal light amplified by said optical amplifier in the predetermined wavelength range.

6. An optical amplification apparatus according to claim 5, further comprising an optical isolator arranged between said optical amplifier and said gain equalizer, said optical isolator passing light therethrough only in a forward direction from said input terminal to said output terminal.

7. An amplification apparatus according to claim 5, wherein, in the order from said input terminal to said output terminal, said optical amplifier, said optical isolator, said fine-tunable equalizing section and said coarse-tunable equalizing section are arranged.

8. An optical amplification apparatus according to claim 5, wherein, in the order from said input terminal to said output terminal, said optical amplifier, said coarse-tunable equalizing section and said fine-tunable equalizing section, and

wherein an optical isolator, which passes light therethrough only in a forward direction from said input terminal to said output terminal, is not arranged between said optical amplifier and said gain equalizer.